

The coelenterate taxa of Joshua Alder

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Introduction

Joshua Alder (1792–1867) is undoubtedly remembered more for his contributions to mollusc and tunicate biology, published with Albany Hancock, than for his work on hydroids. This is made clear in the bibliographic accounts of Alder by Embleton (1867) and Goddard (1929). Alder's important contributions to hydroid systematics, which appeared during the years 1856 to 1867, were soon overshadowed by the exhaustive monograph of the group by Hincks (1868). But during those twelve years, from the age of sixty-four onwards, Alder proposed one genus and twenty-seven species of hydroids and two species of anthozoans. Most were based on material he had collected from the shores and coastal waters of Northumberland. Twelve of the hydroid species are still regarded valid. Three others are problematical, and the rest are today thought invalid.

Hincks (1868) stated that Alder was 'foremost amongst those to whom' he had 'been indebted for help' in the preparation of his own monograph, and that he had profited from having seen Alder's collections. Several of the species described by Alder and still regarded valid are distributed widely in the Atlantic and other oceans and Alder's descriptions, being the earliest, are important.

A fair criticism of much systematic hydroid literature of the past hundred years is that scant attention has been paid to type material. Except for a few specimens the types in the Alder collections have been overlooked. Thus it is important to note that type specimens of most of the hydrozoan and anthozoan species proposed are still preserved. They are distributed about equally between the British Museum (Natural History) [BMNH] in London and the Hancock Museum, University of Newcastle upon Tyne [HM].

The Alder collection in the Hancock Museum is remarkable not only for its types, but for the range of species represented by non-type material. There is probably no older collection of British hydroids including such a wide range of species. It is probably also the oldest spirit-preserved hydroid collection of its size in Britain. Alder's extensive collection of 'Bryozoa' is preserved alongside but like the hydroid collection has been ignored by most taxonomists.

The hydroid material is preserved in a variety of ways. In each of the two museums there are both herbarium specimens and others in spirit, while in the BMNH alone there are a few dry specimens in boxes. Strangely, the only microslide preparations are those made during the present study (see under *Laomedea neglecta*).

Material of species represented in the HM collections but not first described by Alder is not mentioned unless it is type or potentially so (p. 287). In addition the species *Gonothyrea loveni* (Allman, 1859a) is mentioned since Alder was among the first to consider it distinct (p. 285).

The nominal taxa discussed are listed under their original names, but in their current systematic order. Neotype material is designated of *Laomedea neglecta* (p. 284). The reference list includes all publications by Alder concerning coelenterates and we have determined their correct dates of publication. The scientific names of British algae and non-coelenterate animals follow Parke & Dixon (1968) and Marine Biological Association (1957).

The word Northumberland is used in the old sense. It thus takes in the region around Cullercoats, where Alder collected many of the specimens discussed below. Cullercoats is

today more correctly included in the new County of Tyne and Wear; but in the present context that is confusing.

Annotated catalogue of type material

Class ANTHOZOA

Order ACTINIARIA

Family METRIDIDAE

'*Actinia pellucida*' Alder, 1857a

Actinia senilis: Linnaeus, 1767 : 1088.

Actinia pellucida Alder, 1857a : 133-134.

Metridium senile: Stephenson, 1935 : 214-232, 392 (syn. *Actinia pellucida* Alder).

TYPE LOCALITY. Cullercoats, Northumberland; on shells of *Neptunea antiqua* (Gastropoda); coll. J. Alder.

TYPE MATERIAL. Not found.

STATUS. Junior synonym of *Metridium senile* (Linnaeus, 1767) (see Stephenson, 1935).

REMARKS. Alder based the description of this species on small specimens of the plumose anemone, *Metridium senile*. The combination *Actinia pellucida* had been used by authors earlier than Alder, and so is not available; but there is no current reason to propose an alternative name since the species is invalid. Details of the primary homonymy are given by Williams (in prep.).

Order PENNATULACEA

Family PENNATULIDAE

'*Pennatula mollis*' Alder, 1867

Pennatula phosphorea Linnaeus, 1758 : 818; Pax, 1934 : 287-316, figs 197-199, 202-203, 209-211.

Pennatula mollis Alder, in Norman, 1867 : 196, 206 (nom. nud.); Alder, 1867 : 207.

TYPE LOCALITY. Hebrides (Alder, 1867). Norman (1867) implied that the type material came from near the Isle of Skye, but his wording was ambiguous and a wider interpretation, 'Hebrides', can equally be inferred.

SYNTYPES. BMNH Two well preserved specimens in spirit, coll. J. G. Jeffreys, Hebrides, 1866; formerly in A. M. Norman collection; 1898.5.5.31-32.

OTHER MATERIAL. HM Four *Pennatula phosphorea* colonies in one jar, labelled '*Pennatula*, Hebrides'. A second label was faded and illegible. Although these four colonies are possibly part of the type series of *P. mollis* there is no proof. Also in the HM are four non-type colonies labelled '*Pennatula phosphorea* Linn., Cullercoats, Alder coll.'.

STATUS. Junior synonym of *Pennatula phosphorea* Linnaeus, 1758.

REMARKS. Despite the many revisions of the genus *Pennatula* appearing over the past 100 years *P. mollis* Alder has escaped attention. But the type material is identical with *P. phosphorea*, and *P. mollis* can be referred to it.

Class HYDROZOA

Order HYDROIDA

Family CORYMORPHIDAE

Corymorpha nana Alder, 1857a

Hydractinia sp. Johnston, 1847 : 463, fig. 79a.

?*Euphysa aurata* Forbes, 1848 : 71–72, pl. 13, fig. 3a–e.

Corymorpha nana Alder, 1857a : 108–109, pl. 9, figs 7–8.

?*Corymorpha aurata*: Naumov, 1960 : 210–211, figs 95–96 (syn. *C. nana* Alder); Naumov, 1969 : 210, figs 95–96 (syn. *C. nana* Alder).

TYPE LOCALITY. Newbiggin, Northumberland 'among sea-refuse brought in by the fishing boats'; June 1843; 'two specimens'.

MATERIAL. **HM Spirit** Two specimens, one (syntype) dried up, labelled '*Corymorpha nana* Alder, Newbiggin'; the second (non-type) well preserved, labelled '*Corymorpha nana* Alder, Cullercoats'.

STATUS. Problematical. Hartlaub (1907 : 81) tentatively linked *Corymorpha nana* hydroid with the medusa *Euphysa aurata* Forbes, 1848. But Rees (1938 : 25) and Russell (1953 : 84) doubted the two were conspecific. Meanwhile Vervoort (1946 : 114) and Naumov (1960 : 210–211; 1969 : 228) accepted the synonymy. Werner (1959 : 35) reared young polyps from *E. aurata* medusae but did not describe the polyps in detail, and the relation to *C. nana* was still in doubt. Although the two might well prove the same there is no published proof. But C. Edwards (pers. comm.) has new evidence that *aurata* and *nana* are conspecific.

Calder (1975 : 292) has suggested that *Dahlgrenella farcta* Miles, 1937, is also conspecific.

REMARKS. Alder sent one of the two specimens collected from Newbiggin, Northumberland, in June 1843, to George Johnston, together with a brief description and sketch. Alder (1857a) records that the specimen did not reach Johnston in a fit state for examination, but Alder's description and sketch were still mentioned by Johnston (1847) in his account of the species. Although provisionally referring it to the genus *Hydractinia*, Johnston did not provide a specific name.

The HM specimen from Newbiggin is probably the second of the two mentioned in the original description. Although dried, it still resembles the original illustrations and can be considered one of the two type specimens. We have not found the other.

Family TUBULARIIDAE

Tubularia simplex Alder, 1862c

Tubularia simplex Alder, 1862c : 232–233, pl. 8, figs 3–4; Hincks, 1868 : 121, pl. 22, figs 1, 1a; Naumov, 1960 : 218–219, fig. 107; Naumov, 1969 : 237, fig. 107.

TYPE LOCALITY. Cullercoats, Northumberland; 'on old shells and other marine bodies from deep water'.

SYNTYPES. **HM Spirit** Three unbranched stems, one with a well preserved hydranth; labelled '*Tubularia simplex* Alder' and '*Tubularia simplex* Cullercoats, figured'. **Herbarium** Five unbranched stems on one sheet, labelled '*Tubularia simplex*, Cullercoats'.

STATUS. Problematical. Although *T. simplex* might prove valid (e.g. Hincks, 1868; Naumov, 1960, 1969) Vervoort (1946) referred the species to *T. larynx* Ellis & Solander, 1786.

REMARKS. The HM material is the syntype series. The spirit preserved specimens probably formed the basis of the original illustration since the well preserved hydranth closely resembles the published drawing.

The status of *T. simplex* is unclear, although the distinction from *T. larynx* may well be as described by Naumov (1960, 1969). The descriptions of Alder and Naumov, and the few non-type BMNH specimens identified as *T. simplex*, suggest that there are two species. *T. simplex* is reportedly smaller in all proportions, has fewer tentacles in the oral circlet and (Naumov) is said to have medusoid gonophores. But it may yet prove to have been based on

small *T. larynx* material, as implied by Vervoort (1946). *T. simplex* has been recorded only a few times from British waters.

Genus '**VORTICLAVA**' Alder, 1856a

Tubularia Linnaeus, 1758 : 803; Brink, 1925 : 199 (syn. *Vorticlava* Alder, 1856a).
Vorticlava Alder, 1856a : 353; Alder, 1857a : 100; Alder, 1857b : 245.

TYPE SPECIES. *Vorticlava humilis* Alder, 1856a, by monotypy.

STATUS AND REMARKS. The type species of *Vorticlava* has been referred to *Tubularia* Linnaeus, 1758, by recent authors (see notes under *V. humilis*) and *Vorticlava* need not be recognized.

'**Vorticlava humilis**' Alder, 1856a

Tubularia larynx Ellis & Solander, 1786 : 31–32; Vervoort, 1946 : 103 (syn. *V. humilis* Alder).
Vorticlava humilis Alder, 1856a : 353–354, pl. 12, figs 1–4; Alder, 1857a : 100–101, pl. 3, figs 1–4; Alder, 1857b : 245; Alder, 1857c : 90.

TYPE LOCALITY. Cullercoats, Northumberland; 'on a branch of *Corallina officinalis*'; intertidal.

TYPE MATERIAL. Not found.

STATUS. The material described by Alder as *V. humilis* was immature, and Hincks (1868) thought that if the adult were found it would prove to be a species which was already known. Brink (1925) thought it might be *Tubularia larynx* Ellis & Solander, 1786, and the two were treated as conspecific by Vervoort (1946).

REMARKS. *Vorticlava humilis* Alder, 1856a, should not be confused with *Tubularia humilis* Allman, 1864b, which it happens has also been referred to *T. larynx* (e.g. Vervoort, 1946).

Family ZANCLEIDAE

Tubularia implexa Alder, 1856b, and '***Coryne pelagica***' Alder, 1857a

Zanclaea costata Gegenbaur, 1856 : 229–230, pl. 8, fig. 4; Russell, 1953 : 99–105, pl. 4, figs 1–3, text-figs 43–48; Rees & Roa, 1966 : 40; Russell, 1970 : 234.

?*Tubularia implexa* Alder, 1856b : 439–440; Alder, 1857a : 108, pl. 9, figs 3–6; Alder, 1857b : 245.

Coryne pelagica Alder, 1857a : 103, pl. 9, figs 1–2.

Coryne implexa: Alder, 1862b : 312 (syn. *C. pelagica*); Alder, 1862c : 227–228, pl. 10, fig. 4 (syn. *C. pelagica*).

Zanclaea implexa: Allman, 1864a : 357; Rees & Roa, 1966 : 39–41.

TYPE LOCALITIES. (i) *Tubularia implexa* 'Thirty miles off Holy Island', Northumberland, 'on an old anchor brought in by fisherman from forty fathoms water'; coll. R. Howse. (ii) *Coryne pelagica* Cullercoats, Northumberland, 'deep water', on shells of the gastropod, *Neptunea antiqua*.

MATERIAL. HM Spirit Formerly preserved in four tubes. The first contained a tangled mass of hydroid material (syntypes of *T. implexa*) labelled '*Zanclaea implexa* Alder' and '*Coryne implexa* Mr Howse'. The second tube was totally dry and contained only a piece of wood; labelled '*Zanclaea implexa* Alder' and '*Coryne implexa*, Seaham, 25–30 fathoms, Mr Hodge'. The third contained only a small piece of rock and was labelled '*Zanclaea implexa* Alder' and '*Coryne pelagica implexa*, Cullercoats'. The fourth tube was empty, but was labelled '*Zanclaea implexa* Alder' and '*Coryne implexa (pelagica)*, Seaham harbour'. Herbarium Many hydrocauli (syntypes of *T. implexa*), labelled '*Coryne implexa*, deep water, Northumberland, R. Howse'.

BMNH Spirit Several hydrocauli labelled '*Zanclaea implexa* Alder, Northumberland, Mr Alder', received as part of the A. M. Norman collection, 1912.12.21.412. Dry, in box Many hydrocauli, labelled '*Tubularia implexa* Alder, Northumberland', J. Alder collection, 1857.8.3.53.

STATUS. Russell (1953) referred both *T. implexa* Alder, 1856b, and *C. pelagica* Alder, 1857a, to *Zanclaea costata* Gegenbaur, 1856; but Rees & Roa (1966) maintained that the species were distinct. Later Russell (1970) refrained from comment and at present it is not clear whether *implexa* and *costata* are two species or one. If they prove conspecific the senior name would be *costata* since Gegenbaur's paper was issued on 12 July 1856, while Alder's (1856b) did not appear until December of that year.

REMARKS. The HM herbarium specimen and the first tube of spirit material are almost certainly part of the syntype series of *Tubularia implexa* Alder. The BMNH specimens might also be type. The third and fourth HM tubes might have contained type material of *C. pelagica*, but this was not certain.

Family HYDRACTINIIDAE

Hydractinia areolata Alder, 1862a

Hydractinia areolata Alder, 1862a : 144; Alder, 1862b : 311–312, pl. 13, figs 1–4; Alder, 1862c : 225–226, pl. 9, figs 1–4; Alder, 1863a : 314–315, pl. 14, figs 1–4; Alder, 1864 : 192.

Podocoryne areolata: Hincks, 1868 : 32–34, pl. 6, figs 1, 1a; Edwards, 1972 : 97–135, figs 1–3.

TYPE LOCALITY. Cullercoats, Northumberland, 'deep water'; on a small specimen of the bivalve, *Natica alderi*.

TYPES. HM *Spirit* Two colonies (holotype and ?paratype) on two empty shells of *Natica alderi*, labelled '*Podocoryne areolata* Alder' and '*Hydractinia areolata*, Cullercoats'.

STATUS. Widely regarded as valid. The species was referred to the genus *Podocoryne* Sars, 1846, by Hincks (1868). Edwards (1972) provided a detailed synonymy.

REMARKS. Edwards (1972) thought one of the HM colonies to be that originally figured and identified it as holotype. The status of the second colony was uncertain.

Family BOUGAINVILLIIDAE

Atractylis arenosa Alder, 1862a

Atractylis arenosa Alder, 1862a : 144; Alder, 1862b : 313, pl. 13, figs 5–7; Alder, 1862c : 231–232, pl. 9, figs 5–7; Alder, 1863a : 315–316, pl. 14, figs 5–7.

Wrightia arenosa: Allman, 1872 : 300; Bedot, 1925 : 472.

Aselomaris arenosa: Berrill, 1948 : 289; Pennycuik, 1959 : 142, 163–164, pl. 2, fig. 6.

TYPE LOCALITY. Tynemouth and Cullercoats, Northumberland; intertidal, on stones and *Laminaria* holdfasts.

SYNTYPES. HM *Spirit* Preserved in two tubes. The first contained three small pieces of rock, one of which bore a small hydroid colony; labelled '*Atractylis arenosa* Alder' and '*Atractylis arenosa*, Tynemouth'. The second tube was labelled '*Atractylis arenosa*, Cullercoats' and '*Atractylis arenosa* Alder', and contained a small amount of dried alga supporting a hydroid colony.

STATUS. Although poorly documented this species seems valid. It is now referred to the genus *Aselomaris* Berrill, 1948.

REMARKS. The availability of the generic names *Atractylis* Wright, 1858, and *Wrightia* Allman, 1872, has been discussed by Totton (1930 : 139), Berrill (1948 : 289) and Pennycuik (1959 : 142). Berrill, having corresponded with W. J. Rees and A. K. Totton (unpublished letters in BMNH), proposed the new name *Aselomaris* in place of *Atractylis*. Totton considered *Aselomaris* a junior synonym of *Bougainvillia* Lesson, 1836.

'Atractylis linearis' Alder, 1862*b*

Hippocrene britannica: Forbes, 1841 : 84, pl. 1, fig. 2a-c.

Bougainvillia britannica: Forbes, 1848 : 62-63, pl. 12, fig. 1a-f.

Atractylis linearis Alder, 1862*b* : 313, pl. 14, figs 1-3; Alder, 1862*c* : 230-231, pl. 10, figs 1-3.

Perigonimus linearis: Allman, 1864*a* : 365.

TYPE LOCALITY. Cullercoats, Northumberland, on *Turritella communis*, *Astarte danmonia* and other shells from 'deep water'.

SYNTYPES. **HM Spirit** Hydroid growths on fragments of *Turritella* shell and on one entire shell of *Astarte*, labelled '*Atractylis linearis* MS. Figured. Cullercoats'.

STATUS. Currently referred to *Bougainvillia britannica* (Forbes, 1841), for example by Edwards (1964) and Russell (1970).

REMARKS. The HM specimens are the whole syntype series.

Eudendrium confertum Alder, 1856*a*

Eudendrium confertum Alder, 1856*a* : 354-355, pl. 12, figs 5-8; Alder, 1857*a* : 103-105, pl. 3, figs 5-8; Alder, 1857*b* : 245; Alder, 1857*c* : 90-91.

Dicoryne stricta Allman, 1859*b* : 369-370.

Dicoryne conferta: Allman, 1861 : 168-171; Millard, 1975 : 101-103, figs 34e-j.

TYPE LOCALITY. Cullercoats, Northumberland (Millard, 1975), on old shells of *Buccinum undatum* and *Neptunea antiqua* from 'deep water'.

MATERIAL. **HM Spirit** (Syntypes). Preserved in two tubes and one jar. One tube contained a dried and poorly preserved tangle of hydroid material labelled '*Dicoryne conferta* Alder' and '*Dicoryne conferta*, Mas, Cullercoats'. The second tube contained *D. conferta* on gastropod operculae (probably *Colus* or *Buccinum*), and bore the labels '*Dicoryne conferta* Alder' and '*Dicoryne conferta* var., Cullercoats, with *Farella* [= *Triticella*, Bryozoa] *pedicellata*'. The jar contained *D. conferta* on shell fragments of *Buccinum undatum* and *Colus gracilis* and was labelled '*Dicoryne conferta* Alder' and '*Dicoryne conferta* Alder, Cullercoats'.

BMNH Spirit (Non-type) Preserved in two glass jars, both received as part of the A. M. Norman collection. One contained *D. conferta* on small shell fragments, labelled '*Dicoryne conferta*, Cullercoats, Mr Alder', 1912.12.21.153; the second contained *D. conferta* on shells of *Turritella communis*, and was labelled '*Dicoryne conferta*, Cullercoats, Mr Alder', 1912.12.21.154.

STATUS. A valid species referred to the genus *Dicoryne* Allman, 1859*b* (e.g. Hincks, 1868; Millard, 1975).

REMARKS. The HM material is the syntype series. Millard (1975) redescribed the species.

Family EUDENDRIIDAE

Eudendrium capillare Alder, 1856*a*

Eudendrium capillare Alder, 1856*a* : 355-356, pl. 12, figs 9-12; Alder, 1857*a* : 105-106, pl. 3, figs 9-12; Alder, 1857*b* : 245; Alder, 1857*c* : 91; Millard, 1975 : 82, figs 27e-j (syn. *E. parvum* Warren).

TYPE LOCALITY. Embleton Bay, Northumberland; epizoic on the hydroid *Nemertesia ramosa* Lamouroux, 1816; coll. R. Embleton (sic).

MATERIAL. **HM Spirit** (Non-type) In two tubes; one containing a dried, fragmented, much branched colony, with two labels—'*Eudendrium capillare* Alder' and '*Eudendrium capillare*, Plymouth'; the other containing several branched fragments, also with two labels—'*Eudendrium capillare* Alder' and '*Eudendrium capillare*, T. Hincks, Cornwall'. **Herbarium** Several branched fragments on one sheet, labelled '*Eudendrium capillare*, deep water, Northumberland'.

STATUS. A valid species (e.g. Millard, 1975).

REMARKS. The original type material, now lost, was in spirit (Alder, 1856*a*). The only remaining Alder specimens from near the type locality are those on the herbarium sheet in the HM. This material might be designated neotype should the need arise.

Family LAODICEIDAE

'*Campanularia fastigiata*' Alder, 1860*a*

Dianaea rotunda Quoy & Gaimard, 1827 : 181–182, pl. 6, figs 1–2.

Campanularia fastigiata Alder, 1860*a* : 73–74, pl. 5, fig. 1; Alder, 1860*b* : 142.

Calycella fastigiata: Hincks, 1868 : 208, pl. 39, figs 3, 3*a*.

Stegopoma fastigiatum: Levinsen, 1893 : 180, pl. 6, fig. 8; Naumov, 1960 : 315–316, fig. 206; Naumov, 1969 : 341, fig. 206.

Modeeria rotunda: Edwards, 1973 : 573–600.

TYPE LOCALITY. Inner Hauf, Shetland, 'on the stem of *Eudendrium*', dredged by George Barlee, summer 1858.

MATERIAL. HM Spirit Fragments of *Modeeria rotunda* hydroid in two tubes, one labelled 'Shetland' (holotype), the other 'Hebrides' (non-type).

STATUS. Edwards (1973) considered *Campanularia fastigiata* Alder, 1860*a*, to be the hydroid stage of the medusa *Modeeria rotunda* (Quoy & Gaimard, 1827), the name of which has priority.

REMARKS. The HM Shetlands material is the holotype. *C. fastigiata* has been known as *Stegopoma fastigiatum* for some years. The medusa stage was reared by the late W. J. Rees (unpublished), and the species was referred to the Laodiceidae implicitly on the characters of the medusa by Rees & Rowe (1969). Rees informed colleagues of his identification of the medusa shortly before his unexpected death in 1967. Edwards (1973) noted this, and reared the medusa himself. He confirmed Rees' identification, and gave detailed redescriptions and synonymies.

INCERTAE SEDIS

Campanularia humilis Hincks, 1866

Campanularia humilis Hincks, in Alder, 1862*c* : 239 (nom. nud.).

Cuspidella humilis: Hincks, 1866 : 298; Hincks, 1868 : 209–210, pl. 39, fig. 4; Calder, 1970 : 1512–1513, pl. 3, fig. 2.

?*Mitrocomella brownei*: Rees & Russell, 1937 : 75–77, figs 9–10.

?*Staurophora mertensi*: Naumov, 1951 : 747–750 (syn. *C. humilis* Hincks; see remarks).

TYPE LOCALITY. Hincks' (1866, 1868) accounts of the species cited material from Llandudno, North Wales; Whitby, Yorkshire; Northumberland; Shetland; and Connemara; so that the type locality can be taken as the British Isles.

MATERIAL. HM Spirit Preserved in two tubes, each containing a colony of a '*Cuspidella*' hydroid; the first labelled '*Cuspidella humilis* Hincks' and '*Camp. humilis* + *Laom. lacerata*, Cullercoats'; the second labelled '*Cuspidella humilis* Hincks' and '*Calicella humilis* Hincks, on *Cellularia peachia*, Deep Water; N' (? = Northumberland).

STATUS. Problematical. *C. humilis* is type species of the genus *Cuspidella* Hincks (1866 : 298, by monotypy).

REMARKS. Rees & Russell (1937) reared a hydroid from the medusa *Mitrocomella brownei* (Kramp, 1930) and tentatively referred it to *Cuspidella humilis*. But more than one distinctive medusa species is known to have a 'cuspidella' hydroid, and the hydroids have proved

difficult to separate. Thus Naumov (1951) reared such a hydroid from the medusa species *Staurophora mertensi* Brandt, 1838, and considered that it too was identical with *C. humilis*. The problem was reviewed by Calder (1970).

The material listed could be considered type, but no designation is made here pending a better understanding of the life cycles of the species having 'cuspidella' hydroids.

Family LOVENELLIDAE

'*Lafoea Pygmaea*' Alder, in Hincks, 1868

Lafoea pygmaea Alder, in Hincks, 1868 : 205, pl. 40, figs 3, 3a-b.

Calycella pygmaea: Hincks, 1874 : 147.

TYPE LOCALITY. The type series was collected from two widely separated places: Tynemouth, coll. J. Alder; Gouliot Caves, Sark, coll. A. M. Norman.

MATERIAL. HM *Spirit* Formerly preserved in three tubes. The first, labelled '*Calicella pygmaea*, on *Thylacium* sp. [= *Stolonica* in part, Tunicata], Gouliot Caves, Sark' and '*Lafoea pygmaea*, Alder', did not contain a hydroid specimen. The second contained a small colony of *Calycella syringa* (Linnaeus, 1767) from which the operculae had been lost, and bore two labels: '*Campanularia pygmaea*, Gouliot Caves, Sark' and '*Lafoea pygmaea* Alder' (holotype). The third tube contained five small pieces of rock and although labelled '*Lafoea pygmaea*, Tynemouth' and '*Lafoea pygmaea*, Alder' contained no hydroid material.

STATUS. Invalid. Hincks (1874 : 147), Bedot (1912 : 315) and Cornelius (1975 : 390) referred *L. pygmaea* to the genus *Calycella*. Jaderholm (1909 : 80-81) and Broch (1918 : 32) went slightly further and indentified it as the species *Calycella syringa*, and we agree.

REMARKS. The material in the second tube was considered type by Cornelius (1975 : 390) and in the absence of other type material can be considered holotype. Bonnevie (1899 : 12) noted that '*L. pygmaea*' resembled *C. syringa* without operculae, but did not propose a synonymy and evidently considered both species valid. The spelling *Calicella* which appears on the label of the first tube relates to a nominal genus in the family Lafoeidae, and is regarded (Cornelius, 1977b) a junior synonym of *Lafoea* Lamouroux, 1821.

Family AEQUORIDAE

Laomedea acuminata Alder, 1856b

Aequorea vitrina Gosse, 1853 : 340, pl. 23; Russell, 1953 : 350-355, pl. 21, figs 2, 4, 5, pl. 32, fig. 3, text-figs 220b, 222-224.

Laomedea acuminata Alder, 1856b : 441, pl. 16, figs 5-8.

Campanulina acuminata: Hincks, 1868 : 187-189, pl. 37, figs a-c.

TYPE LOCALITY. Cullercoats, Northumberland, deep water, on 'old shell' of *Neptunea antiqua* (Gastropoda).

TYPE MATERIAL. HM *Spirit* Several hydrothecae on broken fragments of calcareous polychaete tubes, labelled 'Cullercoats'.

BMNH *Dry, in box* Small hydroid fragments on barnacle shell, labelled '*Laomedea acuminata* Alder', Northumberland and Durham, pres. J. Alder, 1857.8.3.55.

STATUS. It has been suggested that *Laomedea acuminata* is the hydroid of the medusa *Aequorea vitrina* Gosse, 1853 (Russell, 1953), but the close similarity of *Campanulina paracuminata* Rees, 1938, makes identification uncertain.

REMARKS. The holotype was not found, but the listed material was clearly identified by Alder at some time.

Family LAFOEIDAE

'*Campanularia gracillima*' Alder, 1856a

Sertularia dumosa Fleming, 1820 : 83–84.

Campanularia gracillima Alder, 1856a : 361, pl. 14, figs 5–6; Alder, 1857a : 129–130, pl. 6, figs 5–6; Alder, 1857b : 247.

Lafoea dumosa: Cornelius, 1975 : 385–390, fig. 4.

TYPE LOCALITY. 'On shells and zoophytes from deep water, Northumberland coast'.

MATERIAL. **HM** *Herbarium* (Holotype) Much branched colony on herbarium sheet, labelled '*Campanularia gracillima*. Deep water. Northumberland'; figured, Alder, 1856a, pl. 14, figs 5–6.

BMNH *Spirit* (Non-type) Two colonies and several fragments in one tube, labelled '*Lafoea gracillima* Alder; Cullercoats; Mr Alder', 1857.8.3.51; designated holotype by Totton (1930 : 159).

STATUS. Referred to *Lafoea fruticosa* (Sars, 1850) by several authors and lately to the older taxon *L. dumosa* (Fleming, 1820) (details in Cornelius, 1975).

REMARKS. Totton (1930 : 159) identified the BMNH material as holotype apparently not knowing about the HM specimen, and his designation is here set aside. Since the HM specimen closely resembles the original illustration in its branching it is more suitable to be regarded holotype. The BMNH specimens are different. The locality of the BMNH specimens, Cullercoats, did not appear in the original description, giving further reason for considering the HM specimen holotype. Cornelius' (1975 : 386, 387) application of paratype status to the HM specimen and of lectotype status to the BMNH material must also be set aside.

'*Grammaria ramosa*' Alder, 1856a

Campanularia abietina Sars, 1850 : 139.

Grammaria ramosa Alder, 1856a : 361–362, pl. 14, figs 1–4; Alder, 1857a : 130–131, pl. 6, figs 1–4; Alder, 1857b : 247; Alder, 1857c : 91.

Grammaria abietina: Cornelius, 1975 : 382–385, fig. 3.

TYPE LOCALITY. 'From the deep-water fishing-boats, on the coasts of Northumberland and Durham; rather rare'.

SYNTYPES. **HM** *Herbarium* Branched colony on herbarium sheet, labelled '*Grammaria ramosa*, Northumberland coast'; ?figured, Alder, 1856a; pl. 14, fig. 1.

BMNH *Dry in box* Fragment of colony, labelled '*G. ramosa* Alder'; 1857.8.3.52.

STATUS. Regarded conspecific with *Grammaria abietina* (Sars, 1850) by several authors (e.g. Cornelius, 1975).

REMARKS. The HM and BMNH specimens together comprise the syntype series.

Family HALECIIDAE

'*Halecium filiforme*' Alder 1862b

Halecium filiforme Alder, 1862b : 315; Alder, 1862c : 236; Hincks, 1868 : 228.

Halecium muricatum: Cornelius, 1975 : 402–405, fig. 10 (syn. *H. filiforme* Alder).

TYPE LOCALITY. Cullercoats, Northumberland, 'from the fishing boats'.

MATERIAL. **HM** *Spirit* Preserved in two tubes, both found dry. One contained fragments of colonies of *H. muricatum* (Ellis & Solander, 1786) and was labelled '*H. filiforme*, deep water, Northumberland'. The second contained fragments of colonies of *H. sessile* Norman, 1867, and was labelled '*H. filiforme* n. sp., Cullercoats', with the word '*muricatum*' added later by

Alder, presumably when he found later that there was some *H. muricatum* in the tube. *Herbarium One* infertile colony of *H. muricatum*, labelled '*Halecium filiforme*, deep water, Northumberland', designated lectotype by Cornelius (1975 : 405); and three colonies of *H. sessile* on a second sheet, labelled 'Cullercoats' (non-type).

STATUS. Currently referred to *Halecium muricatum* (Ellis & Solander, 1786).

REMARKS. Cornelius (1975) designated the HM herbarium specimen labelled 'deep water, Northumberland' lectotype of *H. filiforme*. It is a large infertile colony of *H. muricatum* (Ellis & Solander, 1786). Hence *H. filiforme* is to be referred to *H. muricatum*. The syntype series of *H. filiforme* was mixed, including specimens of both *H. muricatum* and *H. sessile*, and this was reflected in the description.

Halecium labrosum Alder, 1859a

Halecium labrosum Alder, 1859a : 354, pl. 13, figs 1–3; Alder, 1859b : 126; Alder, 1860c : 178–179, pl. 12; Cornelius, 1975 : 396–399, fig. 7.

TYPE LOCALITY. The material on which the original description was based came from 'deep water' off the Northumberland coast (coll. J. Alder), the Moray Firth (coll. 'Macdonald of Elgin') and Shetland (coll. G. Barlee).

SYNTYPES. HM *Spirit* Large fertile colony in four pieces, probably ♂; labelled '*Halecium labrosum*, deep water, Northumberland'. *Herbarium* Large colony labelled '*Halecium labrosum*, deep water, Northumberland coast'; ?figured, Alder, 1859a : pl. 13, fig. 1.

STATUS. Valid (e.g. Cornelius, 1975).

REMARKS. The original illustration matches the herbarium specimen and might have been prepared from it. Another HM herbarium specimen, labelled '*Halecium labrosum* with capsules, Wick, C. W. Peach Esq.', is not from a type locality and is therefore non-type.

Halecium nanum Alder, 1859a

Halecium nanum Alder, 1859a : 355, pl. 14, figs 1–4; Alder, 1859b : 126; Vervoort, 1968 : 11, 95.

TYPE LOCALITY. Mid-Atlantic (34° 48'N, 34° 25'W); epizoic on Gulf weed, *Sargassum bacciferum* (Turn.) Ag.; coll. William Wright.

HOLOTYPE. HM *Spirit* Small ramified colony on *Sargassum* weed, labelled '*Halecium nanum*, Gulf weed'; given to Alder by Joseph Wright of the Hancock Museum.

STATUS. Valid (e.g. Vervoort, 1968).

REMARKS. The labels with the listed specimen give neither collector nor locality. But a jar of *Sargassum* weed with no epizoic hydroid preserved in the HM has the same locality data as the type of *H. nanum*, and it is safe to assume that weed and hydroid were from the same collection. *Sargassum* is a usual substrate for the species. *H. nanum* is the only coelenterate species described by Alder to be based on non-British material.

Family CAMPANULARIIDAE

Campanularia hincksii Alder, 1856a

Campanularia volubilis var. Hincks, 1853 : 180.

Campanularia hincksii Alder, 1856a : 360, pl. 13, fig. 9; Alder, 1856c : 347; Alder, 1857a : 127–128, pl. 4, fig. 9; Alder, 1857b : 246; Alder, 1857c : 91; Millard, 1975 : 208, fig. 67, b-e.

TYPE LOCALITY. Northumberland, 'on shells and zoophytes from deep water'.

SYNTYPES. HM *Spirit* Several colonies on sertularian hydroids, preserved in two tubes each

labelled '*C. hincksii* Alder, deep water'; one of the tubes bearing also a label '*C. verticillata*'.

BMNH Dry, in box One colony of *C. hincksii* on *Lafoea dumosa* (Fleming, 1820), labelled '*Camp. hincksii*, Alder' from 'Northumberland and Durham'; pres. J. Alder, 1857.8.3.58.

STATUS. This distinctive species has been widely regarded as valid (e.g. Hincks, 1868; Kramp, 1935; Vervoort, 1946; Millard, 1975).

REMARKS. Alder (1856a) included Hincks' (1853) variety of *C. volubilis* in the original synonymy of this species but apparently based his description on new material. The HM and BMNH specimens comprise the syntype series.

Campanularia johnstoni Alder, 1856a

Medusa hemisphaerica Linnaeus, 1767 : 1098.

Campanularia johnstoni Alder, 1856a : 359–360, pl. 14, fig. 8; Alder, 1857a : 126–127, pl. 4, fig. 8; Alder, 1857b : 246; Alder, 1857c : 91.

Clytia johnstoni: Hincks, 1868 : 143–146, pl. 24, figs 1, 1a; Russell, 1953 : 293, fig. 179.

Phialidium hemisphaericum: Mayer, 1910 : 266–268, figs 140–144; Russell, 1953 : 285–294, pl. 16, fig. 1, pl. 17, fig. 6, text-figs 172–179; Russell, 1970 : 256.

Clytia hemisphaerica: Calder, 1975 : 300–302, fig. 4a–b.

TYPE LOCALITY. Cullercoats, Northumberland; 'on sea-weeds, zoophytes and shells, from between tide-marks to deep water'.

SYNTYPES. **HM Spirit** In three tubes. One contained fertile *Clytia hemisphaerica* colonies epizoic on *Abietinaria abietina* (Linnaeus, 1758) and *Flustra* sp. (Bryozoa), with the labels '*Clytia johnstoni* Alder' and '*Campanularia johnstoni*, Cullercoats'. The second contained fertile colonies of *Clytia hemisphaerica* on unidentified algal stipe with labels as on the first tube. The third contained fertile colonies of *Clytia hemisphaerica* on unidentified algal substrate and also bore two labels reading '*Clytia johnstoni* Alder' and '*Campanularia johnstoni* (branched) Cullercoats'. **Herbarium** One colony of *C. hemisphaerica* with several hydrothecae, on *Membranipora* sp. (Bryozoa), labelled '*Campanularia johnstoni* Cullercoats'.

BMNH Dry, in box One fertile colony of *C. hemisphaerica* on unidentified algal stipe, labelled '*Campanularia johnstoni* Alder' from 'Northumberland and Durham', pres. J. Alder, 1857.8.3.62.

STATUS. Widely assumed to be the hydroid stage of the medusa *Clytia* (= *Phialidium*) *hemisphaerica* (Linnaeus, 1767); but the identity has not been proved beyond doubt.

REMARKS. The relation between the medusa known as *Phialidium hemisphaericum*, the hydroid *Clytia johnstoni* and other closely related forms from European waters has not been finally worked out (Cornelius, in prep).

'*Campanularia raridentata*' Alder, in Hincks, 1861

Campanularia raridentata Alder, in Hincks, 1861 : 292; Alder, 1862b : 315–316, pl. 14, fig. 5; Alder, 1862c : 238–239, pl. 10, fig. 5.

Campanularia ?raridentata: Hincks, 1868 : 176–177, pl. 26, figs 2, 2a; Rees & Thursfield, 1965 : 92–93.

Clytia hemisphaerica: Rees & Thursfield, 1965 : 95–96.

TYPE LOCALITY. Cullercoats, Northumberland; epizoic on other hydroids (Alder, 1862b).

HOLOTYPE. **HM Spirit** One small infertile colony resembling the original illustration, epizoic on small branched colony of *Hartlaubella gelatinosa* (Pallas, 1766); '*Campanularia raridentata* Alder' and '*Camp. raridentata* on *Laomedea*, Cullercoats'.

STATUS. Referred to *Clytia hemisphaerica* (Linnaeus, 1767). *C. raridentata* sensu Alder,

1862*b*, was considered 'one of the many forms of *Clytia hemisphaerica*' by Rees & Thursfield (1965); while Alder (1862*b*) himself separated it from *C. hemisphaerica* (as *C. johnstoni* Alder, 1856*a*) only on its smaller size.

REMARKS. The HM specimen is the holotype. We confirm that it is a young colony of *Clytia hemisphaerica* auct., but the remarks made under the previous species should be noted. '*Campanularia raridentata*' was wrongly ascribed to 'Alder, 1857' by Rees & Thursfield (1965 : 92).

Laomedea flexuosa Alder, 1857*a*

Laomedea flexuosa Hincks, in Alder, 1856*b* : 440 (nom. nud.); Alder, 1857*a* : 122–123; Alder, 1857*d* : 32–33; Hincks, in Allman, 1859*a* : 137; Hincks, 1861 : 260; Cornelius, in prep.
Campanularia flexuosa: Hincks, 1868 : 168–170, pl. 33.

TYPE LOCALITY. British Isles.

MATERIAL. HM *Spirit* (Syntypes). Specimens in three tubes. The first contained several small colonies, one with several well preserved ♀ gonothecae; labelled '*Campanularia flexuosa* Hincks' and '*Laomedea flexuosa*, Tenby'. The second contained several colonies, one a fertile ♀; labelled '*Campanularia flexuosa* Hincks' and '*Laomedea flexuosa*, Tynemouth, Northumberland'. The third contained several colonies, some fertile ♀, on two pieces of *Ascophyllum nodosum* (L.) Le Jol.; labelled '*Campanularia flexuosa* Hincks' and '*Laomedea flexuosa*, Loc. nr. Lerwick, Shetd?'. Dry (Non-types). Stolon growths on 7 rock fragments and 4 valves of young mussels; labelled '*Campanularia flexuosa* Hincks' and, by Alder, '*Laomedea flexuosa*; *Coryne ramosa*; Tynemouth'; confirmation of identifications not possible.

BMNH Dry, in box Two fertile colonies; labelled '*Laomedea flexuosa*, Hincks (Alder), Tenby', probably by Alder; 1857.8.3.54.

STATUS. A valid and well known species.

REMARKS. The name *flexuosa* was introduced by Alder (1856*b*) without a description. Although he cited Johnston's (1847) description of '*Laomedea gelatinosa* var. α ' that in turn was not based on material or other indication. Hence Alder's (1856*b*) introduction of *flexuosa* cannot be accepted. But he was soon to provide adequate description (Alder, 1857*a*, *d*), so validating this widely used name. Allman (1859*a*) was next to use the name, and like Alder (1856*b*) ascribed it to 'Hincks, in MS'. Some years passed before the name was published by Hincks (1861) himself, however; and several more years before the species was illustrated under its own name by any author (Hincks, 1868).

The syntype series comprises material from England, Scotland and Wales and it is appropriate to restrict the type locality to the British Isles.

Laomedea neglecta Alder, 1856*b*

Laomedea neglecta Alder, 1856*b* : 440, pl. 16, figs 1–2; Alder, 1857*a* : 123, pl. 5, figs 1–2; Alder, 1857*b* : 246; Alder, 1857*d* : 33–34, pl. 3, figs 1–2; Hincks, 1868 : 171–172, pl. 30, fig. 2; Cornelius, in prep.

TYPE LOCALITY. Cullercoats and Tynemouth, Northumberland; intertidal, 'on undersides of stones'.

MATERIAL. HM *Spirit* Preserved in two tubes and a jar. The first tube contained five dry fragments of rock, one bearing a hydrocaulus. This was mounted in balsam and identified as *Laomedea flexuosa* Alder, 1857*a*, and was evidently not part of the type series. The tube was labelled '*Campanularia neglecta* Alder' and, by Alder, '*Laomedea neglecta*, Cullercoats'. The second tube contained four hydrocauli on a piece of algal stipe, probably representing a single colony. These also were mounted in balsam, but identified as *L. neglecta*. The labels

read '*Campanularia neglecta* Alder' and '*Laomedea neglecta*, Roach River, Ex' [= Essex]. Although locality and substrate indicate that this material was not part of the syntype series, in the absence of any of the syntype material this colony is designated neotype. The third container, a jar, contained 22 small rock fragments but only one bore a hydroid colony. There were no hydrothecae but the hydrocaulus was more robust than in *L. neglecta*, and the colony was probably *L. flexuosa*. The labels read '*Campanularia neglecta* Alder' and '*Laomedea neglecta*, Cullercoats'. It would be confusing if this material, or that in the first tube, were regarded type of *L. neglecta* since that name would then attach to *L. flexuosa* auct., a widely known species. Designating the material in the second tube neotype avoids this problem.

BMNH Dry, in box Minute stolon fragments on two small pieces of rock; labelled '*Laomedea neglecta* Alder'; pres. J. Alder; 1857.8.3.63. Not identifiable as type material.

STATUS. Widely regarded as valid (e.g. Vervoort, 1946; Cornelius, in prep.). Although not often reported from British waters the species is hard to find and may prove commoner than the records suggest.

REMARKS. The fine cusps characteristic of the hydrothecal rim in this species are clearly visible in parts of the neotype material.

Laomedea loveni Allman, 1859a

Laomedea loveni Allman, 1859a: 138–140.

Gonothyraea loveni: Hincks, 1868: 181–183, pl. 25, fig. 2.

REMARKS. Although this species was originally described in the eighteenth century by Ellis (1756), for the next hundred years it was confused with both the *Obelia* spp. and *Laomedea flexuosa* (details in Allman, 1859a; Hincks, 1868; Cornelius, 1977a). Allman (1859a) wrote that Alder had told him (in litt.) that the present species was 'distinct, though not yet discriminated'; and Alder was clearly among the first to make this discovery. But the species was named by Allman.

In the previous year Wright (1858, repeated in 1859), apparently independently, reported that *G. loveni* was distinct. But he too did not provide a specific name. It might now be difficult to establish whether Alder or Wright was the first to regard *G. loveni* as distinct, and whether or not they worked independently.

We have not located type material. The spelling *Gonothyrea* has often been used but is incorrect (details in Cornelius, in prep.).

Family SERTULARIIDAE

Sertularia tenella Alder, 1856a

Sertularia rugosa var. Johnston, 1847: 63–64, pl. 10, figs 4–6.

Sertularia tenella Alder, 1856a: 357–358, pl. 13, figs 3–6 (nom. nov. for *S. rugosa* var. Johnston);

Alder, 1857a: 113–114, pl. 4, figs 3–6; Alder, 1857b: 246; Alder, 1857c: 91.

Sertularella tenella: Hincks, 1868: 242–243, pl. 47, figs 3, 3a-c; Cornelius, 1979: 292–294, fig. 24.

TYPE LOCALITY. None was given by Alder but it can be restricted to the coastal waters of Northumberland. The original description was based on colonies epizoic on *Hydrallmania falcata* (Linnaeus, 1758), but these colonies could not be found.

SYNTYPES. **HM Herbarium** Several colonies on *Abietinaria abietina* (Linnaeus, 1758), labelled '*Sertularia tenella*, Cullercoats'.

BMNH Dry, in box Two hydrocauli, labelled '*Sertularia tenella* Alder'; Northumberland, pres. J. Alder, 1857.8.3.49.

STATUS. The distinction from *Sertularella rugosa* (Linnaeus, 1758) is doubtful but at present *S. tenella* is accepted (Cornelius, 1979).

REMARKS. The originally illustrated specimen of *S. tenella*, epizoic on *Hydrallmania falcata*, was not found. Hence the HM and BMNH material listed here represents an incomplete syntype series. Nutting (1904 : 84) identified the HM material as type but the BMNH specimens also are part of the syntype series.

***Sertularia tricuspidata* Alder, 1856a**

Sertularia tricuspidata Alder, 1856a : 356–357, pl. 13, figs 1–2; Alder, 1857a : 111–112, pl. 4, figs 1–2; Alder, 1857b : 245–246; Alder, 1857c : 91.

Symplectoscyphus tricuspidatus: Stechow, 1923 : 173; Cornelius, 1979 : 301–304, fig. 28.

TYPE LOCALITY. 'On zoophytes from deep water on the Northumberland coast'.

SYNTYPES. **HM Spirit** Several fertile colonies in one tube, bearing two labels: '*Sertularella tricuspidata* Alder' and '*Sertularia tricuspidata*, with ovicapsules'. **Herbarium** Single colony labelled '*Sertularia tricuspidata* var., Northumberland coast, from the deep water boats'; several colonies on 150 mm colony of *Abietinaria abietina* (Linnaeus, 1758), labelled '*Sertularia tricuspidata*, on *Sertularia abietina*, deep water, Northumbd'; probably syntypes; four colonies, one fragmented, on third herbarium sheet, labelled '*Sertularia tricuspidata*, deep water, Northumberland coast'.

BMNH Herbarium Four colonies on one sheet, labelled '*Sertularia tricuspidata* Alder, Northumberland coast'; 1919.4.5.6.

STATUS. A valid species, currently referred to the genus *Symplectoscyphus* Marktanner-Turneretscher, 1890 (see Cornelius, 1979).

REMARKS. Nutting (1904 : 100–102) identified the HM material as type, but that in the BMNH is also part of the syntype series. The species was redescribed by Cornelius (1979).

Family **PLUMULARIIDAE**

***Plumularia halecioides* Alder, 1859a**

Plumularia halecioides Alder, 1859a : 353, pl. 12, figs 1–4; Alder, 1859b : 126; Alder, 1860c : 177–178, pl. 11a.

Ventromma halecioides: Stechow, 1923 : 220.

TYPE LOCALITY. Cullercoats, Northumberland, 'near low water mark', on stones, summers of 1857 & 1858 (coll. J. Alder); and Roker, Durham (coll. A. Hancock).

TYPE MATERIAL. **HM Spirit** In two tubes, one with three fragmented fertile colonies, the second containing several fertile fragments; both tubes labelled '*Plumularia halecioides*, Cullercoats'. **Herbarium** Six hydrocauli on a herbarium sheet, labelled '*Plumularia halecioides*, Cullercoats'.

BMNH Spirit One small infertile colony on rock, given by Alder to A. M. Norman, Cullercoats, 1912.12.21.475.

STATUS. A valid species. *P. halecioides* is type species of the genus *Ventromma* Stechow, 1923 : 219 (by original designation). Several authors have placed the species in that genus (Leloup, 1935; Bruce *et al.*, 1963; Rees & Thursfield, 1965; Mammen, 1967), but others have retained it in *Plumularia* Lamarck, 1816 (Naumov, 1960, 1969; van Gemerden-Hoogeveen, 1965; Vervoort, 1967). Mammen (1967) discussed the problem and upheld the separation, based on the presence of a supracalycine nematophore in *Ventromma* but not in *Plumularia*. We provisionally agree, and the present species should be known as *Ventromma halecioides*; but we cannot agree with Mammen that *Ventromma* differs enough to be placed in a distinct subfamily.

REMARKS. It is not clear when Alder saw the listed material. Therefore, it is unclear whether the specimens should be regarded as syntypes or, having been identified after the

first description was published, are merely available to be designated neotypes should the need arise. The absence of material from the Roker locality suggests that at least some of the original syntype series might still be found.

Hydroid type material in the Hancock Museum of authors other than Alder

It is evident from the collection of hydroids in the Hancock Museum that Alder received hydroid material from most of the prominent hydroid students of his time. Some of these fragments may be syntypes of the species they described. This material is listed below.

Campanularia angulata Hincks, 1861

Material cited in the original description was collected from Torbay and the Isle of Man. The HM collection includes a colony on *Zostera* L. (eel grass), in spirit, labelled '*Laomedea angulata*, Ramsey, Isle of Man, Revd. T. Hincks', and this is almost certainly part of the syntype series. The species has been revised by Cornelius (in prep.).

Aglaophenia tubulifera (Hincks, 1861)

The type locality is 'deep water, coast of Cornwall' (Hincks, 1861; Svoboda, 1979). The HM collection includes a stem with a few side branches remaining, in spirit, labelled '*Phumularia tubulifera*, Cornwall, Revd. T. Hincks'. Another, darker, specimen in the same tube is presumably that referred to by an additional label 'dark specn. Connemara'. Undoubted type material of *A. tubulifera* is held in the BMNH. The species has been revised by Svoboda (1979).

'*Sertularia gracilis*' Hassall, 1848

The type series came from Brighton and Ramsgate, SE England (Hassall & Coppin, 1852; Cornelius, 1979). What remains of it is divided between HM and BMNH. That in the HM comprises two colonies in spirit and a herbarium specimen. Those in spirit are labelled '*Sertularia gracilis*, Brighton' by Alder, with the word 'Guernsey' added by someone else; on alga, probably *Chondrus crispus* Stackh. (det. J. H. Price). The herbarium specimen is a dense growth on *Chondrus*, labelled 'Brighton, J. Coppin Esq.', the collector's name being faint, at lower right.

Hassall (1848) gave the 'average diameter' of the hydrothecae as 1/316 inches (= 0.19 mm), and of the gonothecae as 1/136 inches (= 0.08 mm). We measured part of the BMNH spirit material (listed in Cornelius, 1979) and confirm these measurements.

The species is now referred to *Sertularia distans* Lamouroux, 1816 (revision in Cornelius, 1979).

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References

We have attempted to include and to date accurately all the publications of Joshua Alder dealing with coelenterates, although some are not quoted in the text. With one exception (Alder, 1861) those not quoted are either republications of earlier papers or merely faunal lists.

- Alder, J. 1856a. A notice of some new genera and species of British hydroid zoophytes. *Ann. Mag. nat. Hist.* (2) **18** : 353–362. [Dated November 1856.]
- 1856b. Descriptions of three new British zoophytes. *Ann. Mag. nat. Hist.* (2) **18** : 439–441. [Dated December 1856.]
- 1856c. Notice of some new genera and species of zoophytes. *Edinb. new phil. J.* (N.S.) **4** : 346–347.
- 1857a. A catalogue of the zoophytes of Northumberland and Durham. *Trans. Tyneside Nat. Fld Cl.* **3** : 93–162. [Although the wrapper date is 1856, a footnote on page 87 of the volume is dated 29 January 1857.]
- 1857b. Zoophytology. *Q. Jl microsc. Sci.* **5** : 242–249. [The first sentence of this paper implies that Alder, 1857a, was published first.]
- 1857c. A notice of some new genera and species of British zoophytes. *Rep. Br. Ass. Advmt Sci.* (Cheltenham, 1856) Part 2 : 90–91. [Dated 1857.]
- 1857d. *A catalogue of the zoophytes of Northumberland and Durham.* Newcastle upon Tyne. [A reprint of Alder, 1857a, in book form; repaginated 1–72.]
- 1859a. Descriptions of three new species of sertularian zoophytes. *Ann. Mag. nat. Hist.* (3) **3** : 353–356. [Dated May 1859.]
- 1859b. On three new species of sertularian zoophytes. *Rep. Br. Ass. Advmt Sci.* (Leeds, 1858) Part 2 : 126. [Dated 1859.]
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